

AMENDMENTS TO THE CLAIMS

1. (Presently Amended) A polynucleotide that is regulated by a peptide effector comprising: a regulatable, catalytically active polynucleotide having a catalytic domain and a regulatory domain, wherein the catalytic activity of the catalytic domain is regulated by the interaction of the peptide effector with the regulatory domain, wherein the catalytic activity is ligation, and wherein the polynucleotide comprises the sequence 5'-GGACCUCGGCGAAAGC-N50-GAGGUUAGGUGCCUCGUGAUGUCC-AGUCGC-3' (SEQ ID NO: 67), wherein N50 is any nucleotide consists of an oligonucleotide 50 bases in length, said oligonucleotide selected from the group consisting of SEQ ID NOS: 35-44.

2. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector is further defined as being a protein.

3. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector comprises a peptide of between about 7 and 20 amino acids.

4. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector comprises a peptide of between about 7 and 12 amino acids.

5. (Previously Presented) The polynucleotide of claim 1, wherein the catalytic activity of the catalytic domain is specific for a nucleic acid target sequence.

6-8. (Canceled)

9. (Original) The polynucleotide of claim 1, wherein the polynucleotide is at least partially single stranded.

10. (Original) The polynucleotide of claim 1, wherein the polynucleotide is at least partially double stranded.

11. (Original) The polynucleotide of claim 1, wherein the polynucleotide comprises at least one modified base.

12. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector is endogenous.

13. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector is exogenous.

14. (Previously Presented) The polynucleotide of claim 1, wherein the peptide effector comprises a phosphorylated peptide.

15-127. (Canceled)

128. (Presently Amended) A vector comprising: a regulatable, catalytically active, polynucleotide having a catalytic domain and a regulatory domain, wherein the catalytic activity of the catalytic domain is regulated by the interaction of a peptide effector with the regulatory domain, wherein the catalytic activity is ligation, and wherein the polynucleotide comprises the sequence 5'-GGACCUCGGCGAAAGC-N50-GAGGUU-AGGUGCCUCGUGAUGUCCAGUCGC-3' (SEQ ID NO: 67), wherein N50 is any nucleotide consists of an oligonucleotide 50 bases in length, said oligonucleotide selected from the group consisting of SEQ ID NOS: 35-44.

129 -137. (Canceled)

138. (Presently Amended) A regulatable catalytically active polynucleotide comprising a catalytic domain and a regulatory domain, wherein the catalytic activity of the catalytic domain is regulated upon interaction of a peptide effector with the regulatory domain, wherein the catalytic activity is ligation and wherein the polynucleotide comprises the sequence 5' GGACCUCGGCGAAAGC-N50-GAGGUU-AGGUGCCUCGUGAUGUCCAGUCGC 3' (SEQ ID NO: 67), wherein N50 is any nucleotide consists of an oligonucleotide 50 bases in length, said oligonucleotide selected from the group consisting of SEQ ID NOS: 35-44.

139. (Presently Amended) A polynucleotide comprising the sequence 5' GGACCUCGGCGAAAGC-N50-GAGGUU-AGGUGCCUCGUGAUGUCCAGUCGC 3' (SEQ ID NO: 67), wherein N50 is any nucleotide consists of an oligonucleotide 50 bases in length, said oligonucleotide selected from the group consisting of SEQ ID NOS: 35-44.